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| APPLICATION NO.                | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.  | CONFIRMATION NO. |
|--------------------------------|-------------|----------------------|----------------------|------------------|
| 09/696,764                     | 10/25/2000  | Mark E. Epstein      | 6169-165             | 3128             |
| 40987                          | 7590        | 09/17/2004           | EXAMINER             |                  |
| AKERMAN SENTERFITT             |             |                      | OPSASNICK, MICHAEL N |                  |
| P. O. BOX 3188                 |             |                      | ART UNIT             | PAPER NUMBER     |
| WEST PALM BEACH, FL 33402-3188 |             |                      | 2655                 |                  |
| DATE MAILED: 09/17/2004 3      |             |                      |                      |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                      |                  |  |
|------------------------------|----------------------|------------------|--|
| <b>Office Action Summary</b> | Application No.      | Applicant(s)     |  |
|                              | 09/696,764           | EPSTEIN, MARK E. |  |
|                              | Examiner             | Art Unit         |  |
|                              | Michael N. Opsasnick | 2655             |  |

*- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1) Responsive to communication(s) filed on 25 October 2000.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4) Claim(s) 1-49 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-49 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

|  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date 2. | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not). Second set of claims 42 and 43 have been misnumbered. Furthermore, these second set of claims claim dependency on a method, although claim 41 is a machine readable storage. Therefore, the second set of claims 42 and 43 will not be examined with respect to the prior art of record. Claims 44 and 45 suffer the same deficiencies, and will not be treated on the merits as well. (examiner notes that it appears that the second set of claims 42 and 43, as well as 44 and 45, were meant to somehow depend from the first claim 43, however, the dependency cannot be determined).

*Specification*

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-43,46-49 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al (5719997).

As per claims 1,39,43,46, Brown et al (5719997) teaches:

“a natural language understanding system comprising..... receiving text input” as grammar based recognition (col. 2 lines 11-20) and as speech input and other types of inputs (col. 1 lines 13-19; and phrase based inputs after the speech recognition process (col. 4 lines 27-34); as well as “a machine readable storage....steps of” as hardware and software (col. 3 lines 10-23),

“applying a first.....first CFG” as using context free grammars to generate the initial probabilistic score for word arcs (col. 11 lines 39-50);

“examining.....CFG” as updating and using a table of grammar node scores (col. 11 lines 48-65);

As per claim 2, Brown et al (5719997) teaches:

“comparing.....PCFG” as comparing each probability with a threshold (col. 11 lines 18-30) as applied to col. 9 lines 45-55);

As per claims 3-6,12-15,26-29,35-38, Brown et al (5719997) teaches both terminal and non-terminal grammar rules (col. 11 lines 39-45);

As per claims 7,8, Brown et al (5719997) teaches:

“comprising iteratively.....input” as applying different probability CFG’s (col. 11 lines 39-47), wherein during the propagation phase (col. 13 lines 45-55), scores of the words are updated (col. 13 lines 55-63), as well as back propagated (col. 14, lines 2-5; as well as col. 12 lines 1-6);

As per claim 9, Brown et al (5719997) teaches:

“said inventory.....NLU system” as hierarchy determined by the probability scores (col. 12 lines 50-60) .

As per claims 10,11, Brown et al (5719997) teaches:

“examining.....CFG” as traceback processor proceeds thru the tree of candidate strings to produce the optimal string (col. 12 lines 1-6);

As per claim 16, Brown et al (5719997) teaches:

“a system.....text input” as grammar based recognition (col. 2 lines 11-20) and as speech input and other types of inputs (col. 1 lines 13-19; and phrase based inputs after the speech recognition process (col. 4 lines 27-34);

“at least one.....input” as using context free grammars to generate the initial probabilistic score for word arcs (col. 11 lines 39-50);  
“an inventory of queries.....CFG” as updating and using a table of grammar node scores (col. 11 lines 48-65);  
“wherein said at least....parse trees” as using context free grammars to generate the initial probabilistic score for word arcs (col. 11 lines 39-50);  
“said inventory of queries....phrase” as updating and using a table of grammar node scores (col. 11 lines 48-65);

As per claim 17, Brown et al (5719997) teaches:

“wherein.....PCFG” as comparing each probability with a threshold (col. 11 lines 18-30) as applied to col. 9 lines 45-55);

As per claim 18, Brown et al (5719997) teaches:

“a system.....text input” as grammar based recognition (col. 2 lines 11-20) and as speech input and other types of inputs (col. 1 lines 13-19; and phrase based inputs after the speech recognition process (col. 4 lines 27-34);

“at least one context.....parse trees” as using context free grammars to generate the initial probabilistic score for word arcs (col. 11 lines 39-50);

“said features....phrase” as phrase recognition (col. 4 lines 27-42).

As per claim 19, Brown et al (5719997) teaches:

“wherein.....PCFG” as comparing each probability with a threshold (col. 11 lines 18-30) as applied to col. 9 lines 45-55);

As per claim 20, Brown et al (5719997) teaches:

“a machine readable storage....steps of” as hardware and software (col. 3 lines 10-23)

“receiving input text” as grammar based recognition (col. 2 lines 11-20) and as speech input and other types of inputs (col. 1 lines 13-19; and phrase based inputs after the speech recognition process (col. 4 lines 27-34);

“applying.....CFG” as using context free grammars to generate the initial probabilistic score for word arcs (col. 11 lines 39-50);

“examining each.....CFG” as updating and using a table of grammar node scores (col. 11 lines 48-65);

As per claim 21, Brown et al (5719997) teaches:

“further comprising.....text input” as applying different probability CFG’s (col. 11 lines 39-47), wherein during the propagation phase (col. 13 lines 45-55), scores of the words are updated (col. 13 lines 55-63), as well as back propagated (col. 14, lines 2-5; as well as col. 12 lines 1-6);

As per claim 22, Brown et al (5719997) teaches:

“wherein.....values” as comparing each probability with a threshold (col. 11 lines 18-30) as applied to col. 9 lines 45-55);

As per claim 23, Brown et al (5719997) teaches:

“inventory.....NLU system” as hierarchy determined by the probability scores (col. 12 lines 50-60);

As per claim 24, Brown et al (5719997) teaches:

“natural language....text input” as grammar based recognition (col. 2 lines 11-20) and as speech input and other types of inputs (col. 1 lines 13-19; and phrase based inputs after the speech recognition process (col. 4 lines 27-34);

“applying a first.....first CFG” as using context free grammars to generate the initial probabilistic score for word arcs (col. 11 lines 39-50);

“examining each.....CFG” as updating and using a table of grammar node scores (col. 11 lines 48-65);

As per claims 25,41, Brown et al (5719997) teaches:

“comparing.....PCFG” as comparing each probability with a threshold (col. 11 lines 18-30) as applied to col. 9 lines 45-55);

As per claims 30,31,33,34,40,47-49, Brown et al (5719997) teaches applying different probability CFG’s (col. 11 lines 39-47), wherein during the propagation phase (col. 13 lines 45-

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55), scores of the words are updated (col. 13 lines 55-63), as well as back propagated (col. 14, lines 2-5; as well as col. 12 lines 1-6);

As per claim 32,42, Brown et al (5719997) teaches feature having a weight determined during training of said NLU (as weighting according to probabilistic scores – col. 12, lines 50-60).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see related art listed on the PTO-892 form.

6. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

(703) 872 9314,  
(for informal or draft communications, please label "PROPOSED" or "DRAFT")  
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA., Sixth Floor (Receptionist).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mno  
9/8/2004

  
**SUSAN MCFADDEN**  
**PRIMARY EXAMINER**